

High Risk Facilities and Emergency Response



Sonja Ingmanson & Manon Maschue
County of San Diego
CalARP Workshop March 29, 2012



Emergency Planning

H&SC Chap 6.95



- ◎ Title 19 CCR, Div 4, Chap 4
 - Article 2- Release Reporting and Notification
 - Release and Threatened Releases
 - Article 3- Area Plan
 - Article 4- Hazardous Materials Business Plan
- ◎ Title 19 CCR, Div 4, Chap 4.5
 - California Accidental Release Prevention Program
 - Descriptions of Safety Systems
 - Article 7- Emergency Response Program



ER-Planning

◉ Fire Department

- Site Visits
 - Meet and Greet
 - Facility layout, ingress, egress, on site resources
- Fire Plan
 - **Wild Land Fire Considerations**
State F&G
- Emergency Mitigation Measures
“Hazmat”
- Evacuation, Shelter in Place
- MDC, Dispatch Protocol



ER-Planning (continued)

◉ Local Hazmat Team

- Site Layout, Hazmat Storage
- Safety Systems, Mitigation Systems
- Responding vs. Non Responding
Joint Entry
- Contractor Supported Response



Drills and Exercises

- ◉ Frequency- Defined in RMP, Annual Typical
- ◉ “Exercise The Plan”
 - Evacuation Procedures –for a Chemical Release
 - Release Notification
 - ICS Coordination
 - Release Mitigation
 - Hazardous Waste Clean-up
- ◉ Include your Local Fire and Hazmat Team
 - Integrated Participation, Site Walk-thru, Tour
- ◉ Vary the Scenarios,
 - Table Top-TTX, Full Functional Field-FTX
 - Release: Minor, Small, Major



Alarms & Release Notification

- ◉ Alarms- On Site
- ◉ Sirens for the Public
- ◉ 911
 - Fire Department, Law Enforcement
 - Dispatch Pre-plan
 - Local Hazmat
- ◉ CUPA/AA
- ◉ State Warning Center, Cal-EMA
- ◉ National Response Center (NRC)
- ◉ Possibly more: OSHA, Cal F&G, US Fish & Wildlife, Local Storm Water, Coast Guard, RWQCB,.....



Site Evacuation Walking Out the Door?



- ◉ Site Notification
 - Alarms, Shouting, PA
- ◉ Staff/Visitor/Contractor Accountability
 - Time Cards
 - Visitor Sign in Log
 - Staff Phone List
 - Staging Areas
- ◉ Shutdown of Critical Processes
- ◉ Communications
 - Radios, Cell Phone



Site Evacuation Walking Out the Door?

- ◉ Critical Documents
 - Hazardous Materials Business Plan (HMBP)
 - SOPs, Emergency Procedures,
 - “That Special Laptop”
 - Employee Roster/Contact Information
- ◉ Personal Belongings
 - Purse, Car Keys, Cell Phone, Medication



Immediate Protective Actions

(Fire & Police)

- ◎ Primary Objectives
 - Life & Safety, Environment, Property
- ◎ Decision Process
 - Size-up, Objectives, Decide, Act - (SODA)
 - Isolate, Deny Entry, Establish Zones
 - Building, Facility, Surrounding Area
 - Evacuation, Shelter in Place
- ◎ Emergency Medical Treatment
 - Mass Casualty
 - Emergency Decon
- ◎ Emergency Mitigation
 - Water Fog, Damming, Diking, Vapor Suppressing Foams

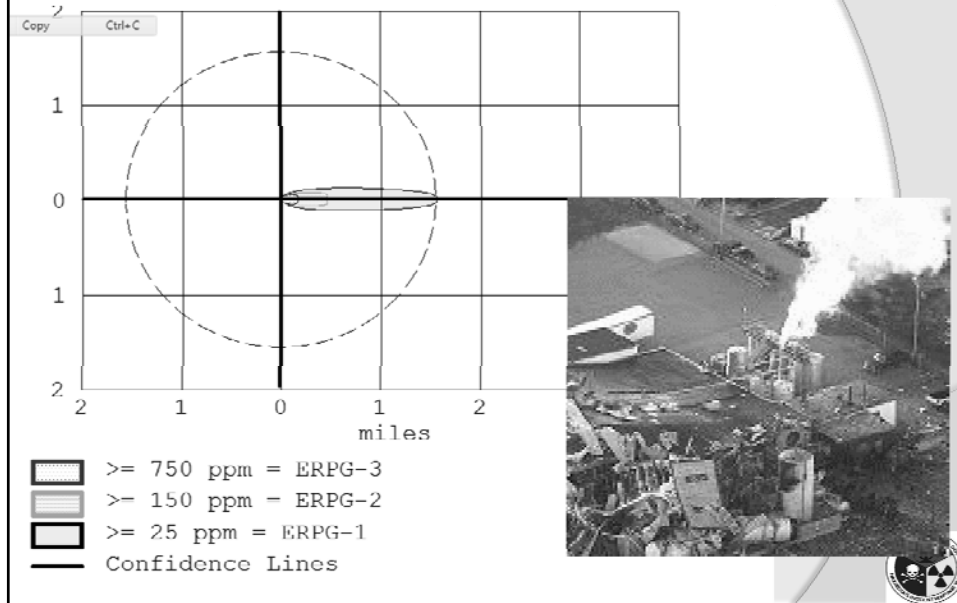


Release Example, Evac or SiP?

- ◎ Anhydrous Ammonia
 - Molecular Weight: **17.03 g/mol, Hydroscopic**
- ◎ ATMOSPHERIC DATA:
 - **Wind Speed: 1 m/sec** from West, at 3 meters height
 - **Ground Roughness:** Urban, Cloud Cover: 5 tenths
 - **Air Temp 70° F**, Stability Class: E, No Inversion Height,
 - **Humidity: 25%**
- ◎ SOURCE STRENGTH:
 - Leak from short pipe or valve in vertical cylindrical tank
 - **Tank- Diameter: 9 feet** , Length: 12.6 feet, **Volume: 6000 gallons**
 - **Circular Opening Diameter: .5 inches**,
 - **Opening is 0 feet from tank bottom**
 - **Release Duration:** ALOHA limited the duration to 1 hour
 - **Release Rate: 106 lb/min**,
 - **Total Amount Released: 6,340 pounds**

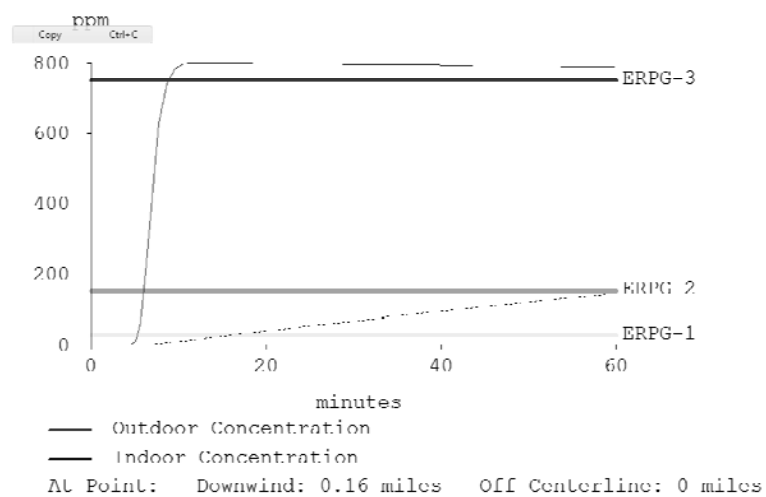


Release Example, Evac or SiP?



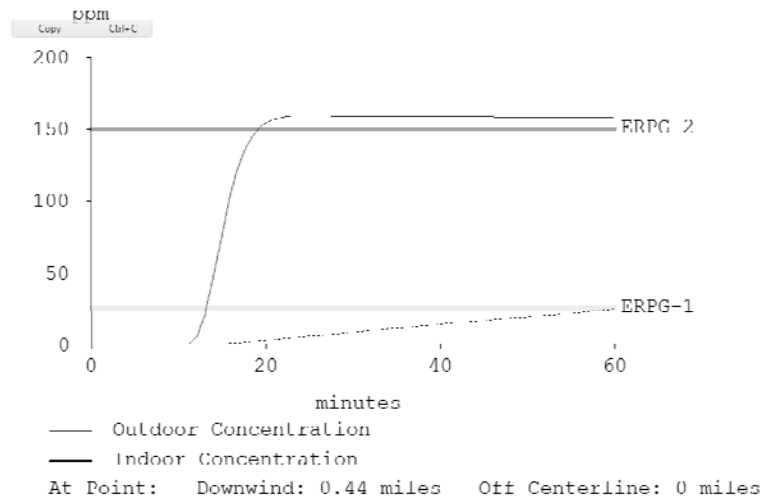
Release Example for Evac or SiP

End of ERPG 750 ppm Footprint



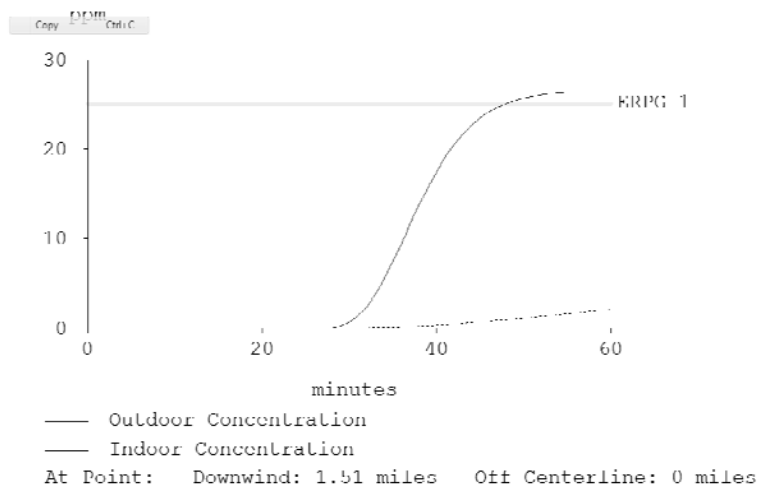
Release Example for Evac or SiP

End of ERPG 150 ppm Footprint

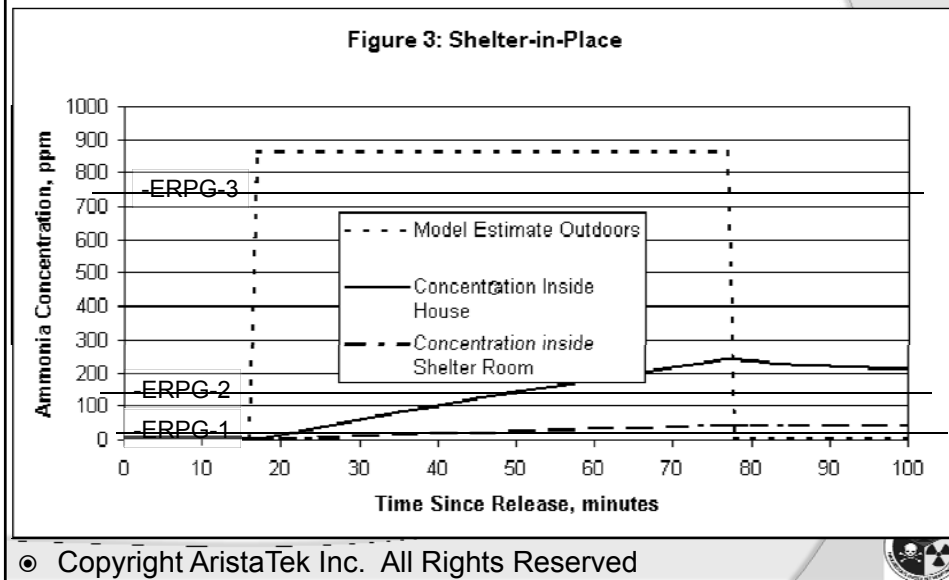


Release Example for Evac or SiP

End of ERPG 25 ppm Footprint



Shelter in Place Concentrations



Post Shelter in Place

Sound the “All Clear”

- Eventually some chemical will seep into the building and even a shelter room. The toxic chemical may remain inside the building even after the air has cleared outside.
- Emergency response personnel will need to give instructions to the public as to what to do, which could be to ventilate the building or even order an evacuation.



Evacuate or Shelter in Place

- ◉ Will shelter-in-place provide adequate protection?
- ◉ Release vs. Threatened Release
- ◉ Is there enough time to evacuate?
 - Time is a Crucial Factor
 - Insufficient Time to Evacuate
 - Duration of Release

Communication

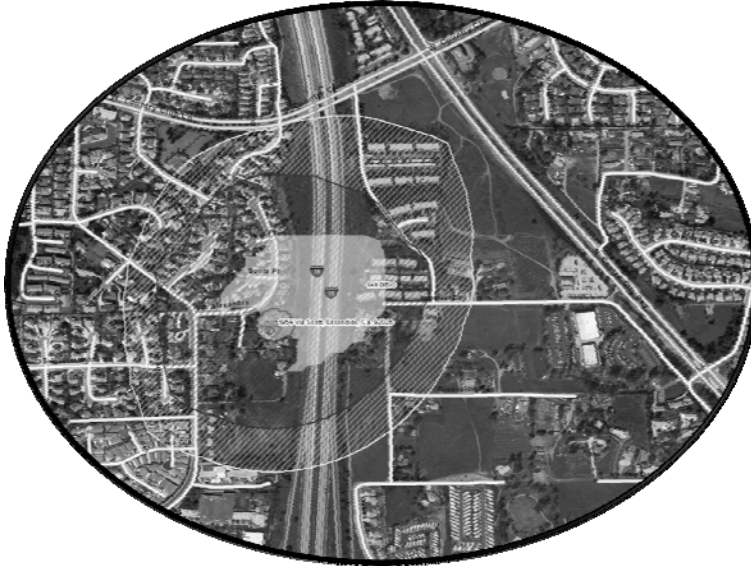
- ◉ Message
 - How to Shelter in Place
 - Evacuation Instructions
 - Bilingual/Multilingual
 - Red Cross Shelter's



Escondido Bomb House 12-9-2010



Escondido Bomb House 12-9-2010



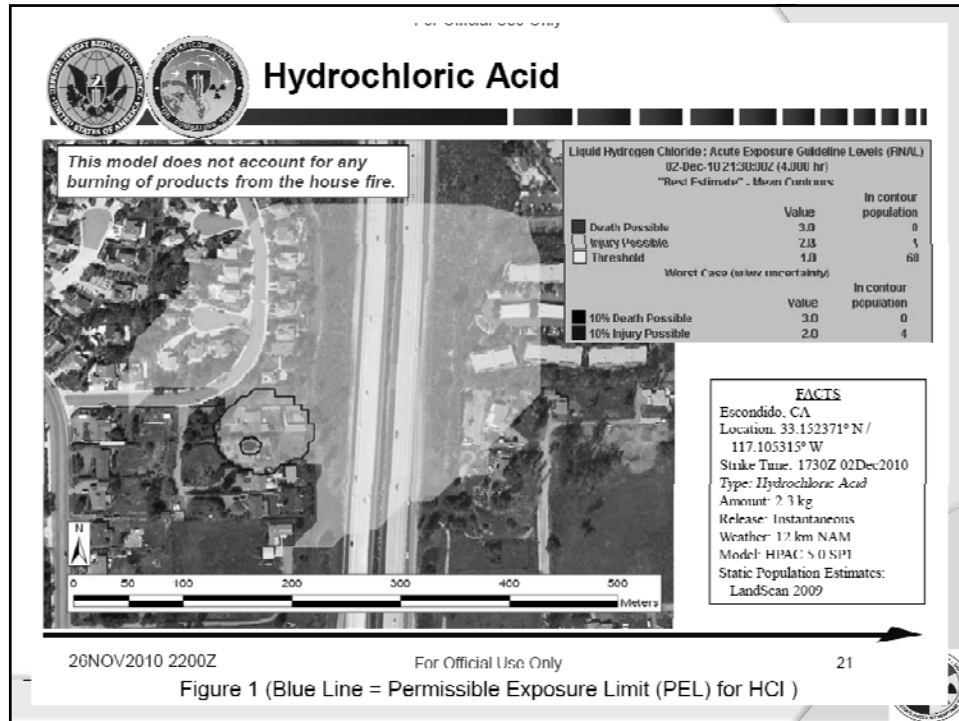
Red is Evacuation area


Bright yellow is level of concern

Light Yellow is shelter in place

Escondido Bomb House 12-9-2010





 **San Diego County Sheriff's Department**
PUBLIC AFFAIRS UNIT *"Keeping the peace since 1850"*


For More Information: December 6, 2010
Call 211
Visit www.sdcountyemergency.com

Shelter in Place Plan

The San Diego County Sheriff's Department wants to ensure residents are prepared for the upcoming burn operation at 1954 Via Scott, in Escondido. On the designated burn day, at about 9:00 A.M., emergency responders are going to intentionally initiate a fire in order to dispose of both the hazardous materials contained inside the residence, as well as the residence itself.

During the incident, we ask that you "shelter-in-place" as described below:

1. Stay inside your residence
2. Close and lock all windows and doors
3. Turn off all ventilation systems
 - a. Turn off your heater, air conditioning, or whole house fan
 - b. Avoid using the ventilation fans in your kitchen and bath
 - c. Refrain from using your clothes dryer
4. Close your fireplace damper (if there is a fire in the fireplace, let it burn down without closing the dampers)
5. After 3:00 P.M., on the day of the burn, call 211 or listen to your local radio or TV stations for further instructions.





San Diego County Sheriff's Department
PUBLIC AFFAIRS UNIT

*"Keeping
the peace
since 1836"*

For More Information:
Call 211
Visit www.sdcountyemergency.com

December 6, 2010

Evacuation Plan

The San Diego County Sheriff's Department wants to ensure residents are prepared for the upcoming burn operation at 1954 Via Scott, in Escondido. On the designated burn day, at about 9:00 A.M., emergency responders are going to intentionally initiate a fire in order to dispose of both the hazardous materials contained inside the residence, as well as the residence itself.

In order to ensure everyone is evacuated in a safe and timely manner, we will